SLOVENSKI STANDARD
SIST EN 9223-100:2018

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Vodenje programov - Vodenje konfiguracije - 100. del: Vodilo za uporabo načel upravljanja konfiguracije

Programme Management - Configuration Management - Part 100: A guide for the application of the principles of configuration management

Programm-Management - Konfigurationsmanagement -Teil 100: Anwendungsanleitung für die Grundsätze des Konfigurationsmanagement

Management de Programme - Gestion de la Configuration - Partie 100 : Guide pour la mise en oeuvre des principes de la gestion de la configuration

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Programme Management - Configuration Management - Part 100: A guide for the application of the principles of configuration management

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This European Standard was approved by CEN on 25 September 2017.

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European foreword

This document (EN 9223-100:2018) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2018, and conflicting national standards shall be withdrawn at the latest by September 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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1 Scope

The present document:

— is based on internationally-recognized concepts;

— proposes organisational principles and implementation processes for configuration management from both viewpoints: “programme” and “company”, with emphasis on the “programme” viewpoint.

The required procedures for implementation and necessary tailoring have to be prescribed for each programme.

This document encompasses some aspects of the relationship between configuration management and contract management, but does not address contract management procedures.

Intended for use in complex programmes (aerospace, defence, etc.), this document is an extension of standard ISO 10007 *Quality management systems — Guidelines for configuration management*.

This document is coherent with EN 9200 *Programme management — Guidelines for project management specifications*.

The described principles concern all the stakeholders in the programme (authorities, manufacturers, skills, etc.) from the feasibility phase to disposal. These principles can be applied or tailored to any products (material or software).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Applicable standards may change according to the related skills (mechanical, chemical and software, etc. or according to the different domains (Defence, Space, Aircraft, etc.)

EN 9223-101, *Programme Management — Configuration Management — Part 101: Configuration identification*[1)]

EN 9223-102, *Programme Management — Configuration Management — Part 102: Configuration status accounting*[1)]

EN 9223-103, *Programme Management — Configuration Management — Part 103: Configuration Verifications, Reviews and Audits*[1)]

EN 9223-104, *Programme Management — Configuration Management — Part 104: Configuration Control*[1)]

EN 9223-105, *Programme Management — Configuration Management — Part 105: Glossary*[1)]

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defence organizations*

1) Published as ASD-STAN Prestandard at the date of publication of this standard http://www.asd-stan.org/.

EN ISO 9000, *Quality management systems — Fundamentals and vocabulary*

EN ISO 9001, *Quality management systems — Requirements*

ISO 10007:2003, *Quality management systems — Guidelines for configuration management*

NOTE A list of publications is given in the bibliography. A table summarizes the relationships of the main documents dealing with configuration management identified at the time this document was published.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 9223-105 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Configuration management: basic concepts

4.1 "Programme" and "company" viewpoints

The following diagram presents configuration management from the "programme" and "company" viewpoints.

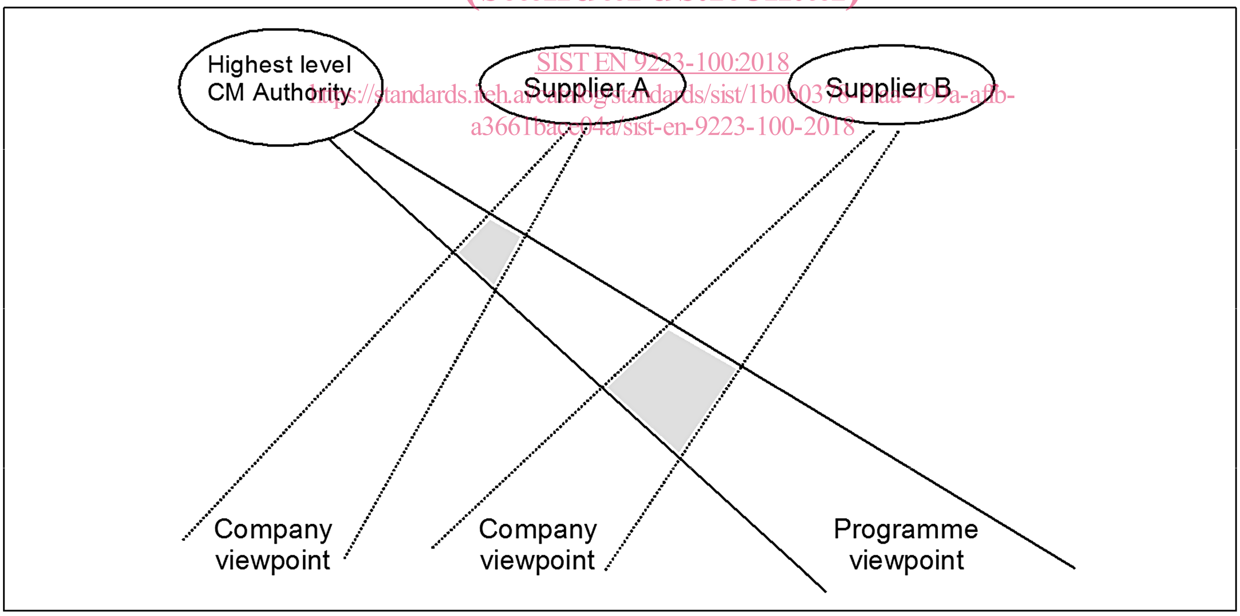

Figure 1 — "Programme" and "Company" viewpoints in configuration management

The necessity of combining these two viewpoints implies that common concepts and methods for the different stakeholders make these viewpoints consistent. The programme manager is responsible for defining management methods for "programme" configuration management, taking into account the programme particular needs and especially it's phasing and scheduling.

The present document develops the configuration management according to the "programme" viewpoint. The "company" viewpoint is given preference in other standards.

4.2 Objectives, services and interfaces with other disciplines

4.2.1 Objectives

In order to achieve convergence towards the expected product, the main objectives of “programme” configuration management are:

— to know the physical and functional description of the product, its components and the associated supporting elements;

— to enable each participant to use coherent and validated data.

From the designer to the end-user, each stakeholder uses and provides his partners with technical data about products, processes and their associated means. This collection of data grows as the programme progresses. Configuration management arrangements must therefore be adjusted at every level in the customer/supplier chain in an integrated engineering of products, processes and associated resources. The distinction must be made between:

— specific processes and the associated tools which are part of the product's configuration (mandatory processes, for example);

— pre-existing processes and the associated tools, for which configuration management is at the supplier's sole initiative.

Doing that, the supplier may apply the principles outlined in the present document.

4.2.2 Services to be provided

Configuration management serves any stakeholders who need to share and/or exchange technical data. The added value generated by the data consistency guarantee and their integrity over time therefore benefits:

— the customer who is responsible for expressing the objectives in terms of prices and cost, lead times and performance;

— the supplier in his different roles (designer, purchaser, manufacturer, and where applicable, providers of services during in-service operation, etc.);

— the end-user for his different activities (operation and maintenance scheduling, provisioning, material fleet management, etc.).

Data to be managed in the scope of Configuration Management encompass the whole product life cycle, from the initial expression of need to disposal, through the successive configuration baselines (see 5.1).

Configuration management shall as a whole:

— provide a global view on the specifications and on the functional and physical characteristics of the products in order to ensure convergence towards fulfilment of the requirements;

— apply to all components of the product and to the associated interfaces;

— encompass all the stakeholders involved in preparing and making any decision relating to configuration;

— ensure traceability:

  — of the configuration data shared and/or exchanged among the stakeholders;

  — of the decision elements related to shared and/or exchanged configuration data.

— address together with Quality Assurance, the nonconformities and requests for concessions.

4.2.3 Input from/Output towards other disciplines

Configuration management needs existence and elaboration of a documentary management system, a technical data management system and a product lifecycle management system, fitted to programme characteristics.

Addressees and use of the outputs of Configuration Management are introduced in the above 4.2.2.

In addition, Configuration Management depends on direct or indirect inputs from other processes and disciplines of the programme management, such as:

— a product-tree, which shall be consistent with the one used to draw out the Work Breakdown Structure and in which Configuration Items are identified and delimited (see 5.2.2 and 5.2.3);

— programme organisation, a base for designating and mandating the Configuration Management Authorities in the frame of delegation system (see 5.2.4);

— programme phasing and scheduling, a base for programming the Configuration Management processes and key-events, including establishment of the Configuration Baselines (see 5.1 and 5.3);

— requests for technical changes, deviations, concessions (see 6.2); such requests may result from processing technical events, anomalies and nonconformities;

— statements of conformity/nonconformity to:

  — the Configuration Management processes;

  — the applicable configuration.

The above inputs/outputs, and related interfaces, should be described in a formal document, for example the applicable Configuration Management Plan or Quality system management documentation.

4.3 Configuration management processes

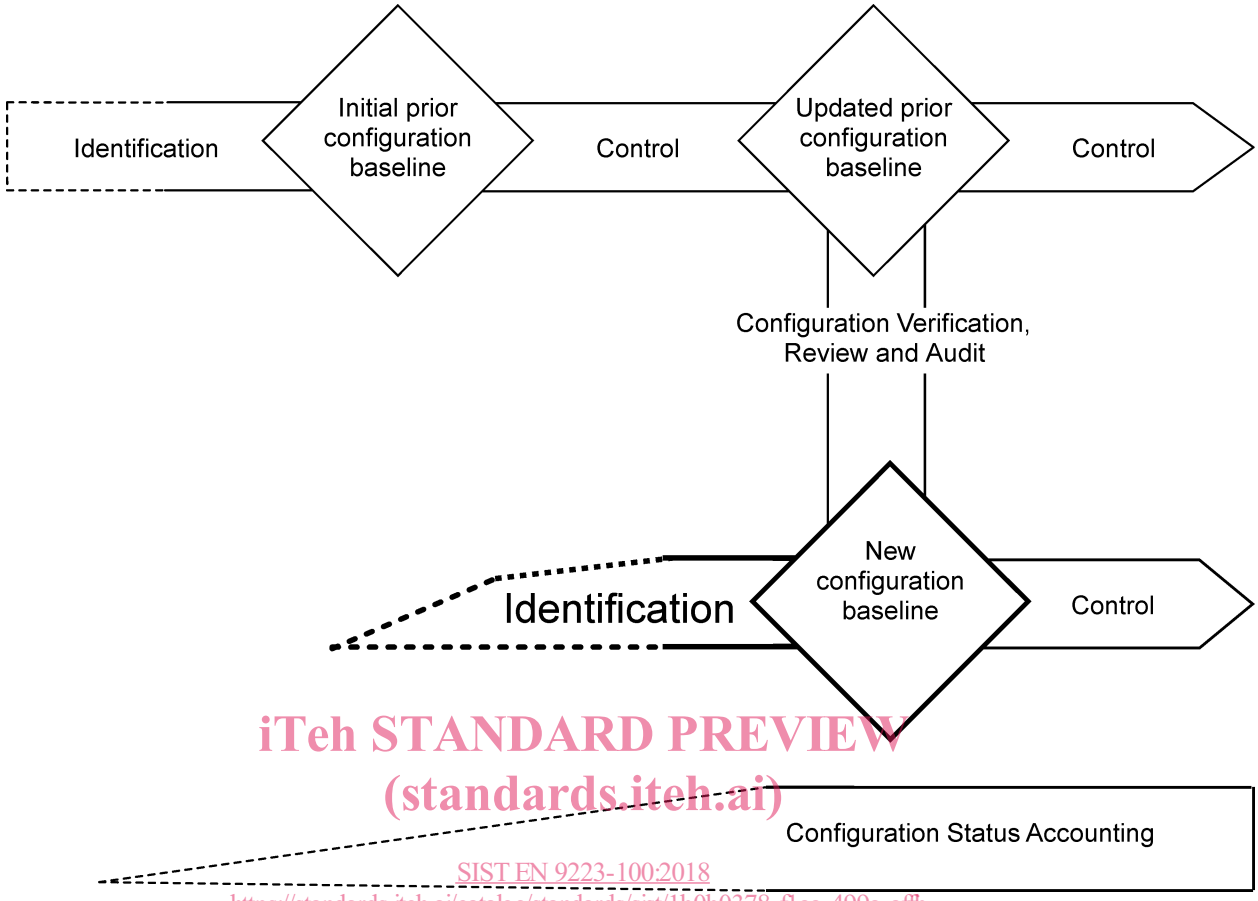

Figure 2 — Different configuration management processes

Conventionally, configuration management is organized in four processes:

— configuration identification;

— configuration control;

— configuration status accounting;

— configuration audit (reviews and verifications).

These processes are defined from:

— establishment of “configuration management authorities” (see 5.2.4);

— product breakdown into configuration items (see 5.2.2 and 5.2.3);

— for each configuration item:

  — establishment of the configuration baseline (see 5.1);

  — control of the technical changes and discrepancies with this configuration baseline (see 6.2).

At each level of the product breakdown, allocation of configuration management tasks and associated decision-making delegation (or subdelegation) are defined to the lowest level found competent.

The corresponding provisions are described in the configuration management plan established in response to the management specification (see Annex B).

5 Configuration management as part of programme management

5.1 Configuration baselines

5.1.1 Main configuration baselines

Whenever it is necessary during the life cycle of a product to agree on a baseline to be used for identifying future configurations, a “configuration baseline” is established.

Three main configuration baselines are distinguished:

— the functional configuration baseline;

— the allocated configuration baseline;

— the product configuration baseline.

Independently from the implemented configuration management system, traceability must be guaranteed between the different configuration baselines.

The configuration baselines establishment is an integral part of the identification process which is described in the EN 9223-101.

5.1.2 Functional configuration baseline

The functional configuration baseline is the agreed baseline used to launch the preliminary design.

This baseline, in its initial official issue, is generally named by its internationally-acknowledged abbreviation **FBL** (Functional Baseline).

The baseline constitution is part of the Identification process as described in EN 9223-101.

5.1.3 Allocated configuration baseline

The allocated configuration baseline is the agreed baseline used to launch the detailed design.

This baseline, in its initial official issue, is generally named by its internationally-acknowledged abbreviation **ABL** (Allocated Baseline).

This configuration takes into account the requirements of the Functional Baseline (FBL) and prepares the future building of the Product Baseline (PBL).

5.1.4 Product Configuration baseline

The product configuration baseline is the agreed baseline, in connection with the decision to launch industrialization and/or production processes.

This baseline, in its initial official issue, is generally named by its internationally-acknowledged abbreviation **PBL** (Product Baseline).